

## PATENT CLAIMS

### I Claim:

1. A pumping system for pumping a liquified gas, the system comprising:
  - a first liquified gas storage vessel, adapted to store a composition as a liquified gas at a first temperature and a first pressure, the first temperature and first pressure being sufficient to maintain the composition as a liquified gas;
  - a high pressure storage vessel for receiving the liquified gas;
  - a pump in liquid communication with the liquified gas storage vessel and the high pressure storage vessel;
  - a first heat exchanger, to maintain the composition at a temperature below the vaporization point of the liquified gas.
2. The pumping system of Claim 1 wherein the first heat exchanger further includes a liquid tube to carry at least some of the liquified gas from the liquified gas storage vessel to the pump and a vaporizing tube.
3. The pumping system of Claim 2, further including a flow controller engaged with the vaporization tube of the first heat exchanger.
4. The pumping system as set forth in Claim 2, further including a flow controller engaged with the vaporization tube of the first heat exchanger, wherein said flow controller is a pressure regulator.
5. The pumping system as set forth in Claim 2, wherein said pump is a pneumatic pump.
6. The pumping system of Claim 5, further comprising a warming coil disposed between the vaporizing tube of the first heat exchanger and the pump so that gas from the vaporizing tube drives said pneumatic pump.

7. The pumping system as set forth in Claim 1, further comprising a second heat exchanger, the second heat exchanger including a liquid tube to carry at least some of the liquified gas from the pump to the high pressure storage vessel.
8. The pumping system as set forth in Claim 7, wherein said pump is a pneumatic pump.
9. The pumping system of Claim 8, further comprising a warming coil disposed between the vaporizing tube of the first heat exchanger and the pump so that gas from the vaporizing tube drives said pneumatic pump.
10. The pumping system as set forth in Claim 7, further comprising a flow controller to control the flow of liquified gas to the second heat exchanger.
11. The pumping system as set forth in Claim 10, wherein said flow controller is a pressure regulator.
12. The pumping system as set forth in Claim 1, further including a second heat exchanger including a liquid tube for carrying at least some of the liquified gas from the gas storage vessel to the high pressure storage vessel.
13. The pumping system as set forth in Claim 7, further comprising a second liquified gas storage vessel, in liquid communication with the second heat exchanger.
14. The pumping system as set forth in Claim 1, further comprising a unified, modular support base for engagement and support of at least the pump and the first heat exchanger.
15. The pumping system of Claim 1 wherein the first heat exchanger includes a recirculating refrigeration system, including a compressor, a condenser, a flow restrictor, adjacent the first heat exchanger;

a first liquified gas storage vessel, adapted to store a composition as a liquified gas at a first temperature and a first pressure, the first temperature and first pressure being sufficient to maintain the composition as a liquified gas; and  
a high pressure storage vessel for receiving the liquified gas.

16. The pumping system of Claim 1 wherein the first liquified gas storage vessel and the high pressure storage vessel are adapted to contain liquified Carbon Dioxide.
17. A process for transferring a liquified gas from a refrigerated storage vessel that maintains the liquified gas at a first temperature and a first pressure to a smaller storage vessel the process comprising the steps of:
  - pumping the liquified gas from the refrigerated storage vessel to the smaller storage vessel;
  - through a pump located between the two vessels; and
  - cooling the liquified gas to a temperature below the first temperature as it is being pumped from the refrigerated storage vessel to the smaller storage vessel.
18. The process as set forth in Claim 17 wherein the cooling step includes the step of providing a first heat exchanger, and passing the liquified gas through the first heat exchanger.
19. The process as set forth in Claim 18 further including vaporizing a portion of the liquified gas of the refrigerated storage vessel in a vaporization tube.
20. The process as set forth in Claim 18 wherein the vaporization tube of the vaporizing step is part of the first heat exchanger of the providing step.
21. The process of Claim 19 wherein the vaporization tube of the vaporizing step is engaged with the pump of the pumping step to drive the same.

22. The process of Claim 18 wherein the first heat exchanger is located between pump and the refrigerated storage vessel and further including a second heat exchanger, the second heat exchanger located between the pump and the smaller storage vessel.
23. The process of Claim 17 wherein the liquified gas of the pumping and cooling steps is Carbon Dioxide.